

CLAIMS

1. A method for encoding elements of an electronic design, comprising:
generating a flattened hierarchy of a parameterized cell of the electronic design;
selecting common and unique parameters of each element in the parameterized cell;
generating a physical design quantization characteristic value from the selected common and unique parameters.
2. The method of claim 1, further comprising:
recognizing one or more arrays in the flattened hierarchy, each array comprising multiple instances of a shape.
3. The method of claim 2, wherein recognizing one or more arrays further comprises:
determining delta values for the instances of the shape based on a distance from one instance to a neighboring instance; and
determining instances that share delta values.
4. The method of claim 1, wherein selecting common and unique parameters of each element further comprises:
identifying multiple instances of a shape;
identifying parameters common to each instance of the shape; and
identifying parameters unique to each instance of the shape.
5. The method of claim 4, wherein generating the characteristic value comprises:

storing the common parameters in a field of a data structure associated with each instance of the shape; and

for each instance, storing the unique parameters in a field of the data structure associated with the instance.

6. An apparatus for encoding elements of an electronic design, comprising:

means for generating a flattened hierarchy of a parameterized cell of the electronic design;

means for selecting common and unique parameters of each element in the parameterized cell; and

means for generating a physical design quantization characteristic value from the selected common and unique parameters.

7. The apparatus of claim 6, further comprising:

means for recognizing one or more arrays in the flattened hierarchy, each array comprising multiple instances of a shape.

8. The apparatus of claim 7, wherein said means for recognizing one or more arrays further comprises:

means for determining delta values for the instances of the shape based on a distance from one instance to a neighboring instance; and

means for determining instances that share delta values.

9. The apparatus of claim 6, wherein said means for selecting common and unique parameters of each element further comprises:

means for identifying multiple instances of a shape;

means for identifying parameters common to each instance of the shape; and

means for identifying parameters unique to each instance of the shape.

10. The apparatus of claim 9, wherein said means for generating the characteristic value comprises:

means for storing the common parameters in a field of a data structure associated with each instance of the shape; and

means for storing the unique parameters in a field of the data structure associated with each instance.

11. A computer readable medium comprising instructions which, when executed by a computer processing system, cause the system to perform a method for encoding elements of an electronic design, the method comprising:

generating a flattened hierarchy of a parameterized cell of the electronic design;

selecting common and unique parameters of each element in the parameterized cell;

generating a physical design quantization characteristic value from the selected common and unique parameters.

12. The medium of claim 11, wherein the instructions, when executed, cause the system to perform the method further comprising:

recognizing one or more arrays in the flattened hierarchy, each array comprising multiple instances of a shape.

13. The medium of claim 12, wherein the instructions, when executed, cause the system to perform the method of recognizing one or more arrays, the recognizing method comprising:

determining delta values for the instances of the shape based on a distance from one instance to a neighboring instance; and

determining instances that share delta values.

14. The medium of claim 11, wherein the instructions, when executed, cause the system to perform the method of selecting common and unique parameters of each element, the selecting method comprising:

identifying multiple instances of a shape;

identifying parameters common to each instance of the shape; and

identifying parameters unique to each instance of the shape.

15. The medium of claim 14, wherein the instructions, when executed, cause the system to perform the method of generating the characteristic value, the method comprising:

storing the common parameters in a field of a data structure associated with each instance of the shape; and

for each instance, storing the unique parameters in a field of the data structure associated with the instance.